



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/590,485

04/02/2008

Igor Bargatin

049411-0340

9701

22428 7590 11/03/2008  
FOLEY AND LARDNER LLP  
SUITE 500  
3000 K STREET NW  
WASHINGTON, DC 20007

EXAMINER

NOORI, MAX H

ART UNIT

PAPER NUMBER

2855

MAIL DATE

DELIVERY MODE

11/03/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/590,485	<b>Applicant(s)</b> BARGATIN ET AL.	
	<b>Examiner</b> Max Noori	<b>Art Unit</b> 2855	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 36 and 37 is/are allowed.
- 6) ☒ Claim(s) 1-5, 13-24, 28-34 and 38 is/are rejected.
- 7) ☒ Claim(s) 6-12, 25-27 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/29/07 and 1/18/08</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 13-15, 18-24, 28-29, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi et al.

Regarding claims 1, 4, 13, 19-22, 28, and 38, Kobayashi et al., discloses method and apparatus for measuring values of physical property with features of the claimed invention including a resonator and a piezoresistive element connected to the resonator, along with AC means for biasing the piezoresistive element (see, for example, claim 3) at a first frequency and driving the resonator at a different frequency different from the first frequency; and detecting mechanical response of the resonator (see, for example claim 5).

Regarding claim 2, Kobayashi et al., teaches the use of a deflection sensor (col. 16, line 26).

Regarding claim 3, 23, an AC drive source is provided to oscillate the resonator.

Regarding claim 5, Kobayashi et al., teaches the use of an adding means to add (or subtract) different frequency (15, line 41).

Regarding claims 14-15, Kobayashi et al., considers an AFM probe.

Regarding claims 18, 29, the resonator is a cantilever.

Art Unit: 2855

Regarding claim 24, Kobayashi et al., teaches the use of a lock-in amplifier (element 9).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 16-17 and 30-34 rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al., as applied to claims 1 and 20 above, and further in view of Clabes et al.

Regarding claim 16-17, and 30-34, Even though the piezoresistive comes in various shape and form, Kobayashi et al., does not elaborate on the nature of this element. The use of metal film piezoelectric in cantilever AFM, however, is notoriously known. Clabes et al., is presented to show such arrangement (see, for example, claim 12). It would have been obvious, therefore, for a skilled artisan at the time of the invention to modify Kobayashi to use any kind of piezoresistive material such as metal or semiconductor film. Because when all the component of a claim is presented in a prior art, the mere use of different kind of piezoresistive element is well within the level of an ordinary skilled artisan and is suggested by convenience or a desired intended use.

5. Claims 36-37, are allowed over the prior art of the record.

Art Unit: 2855

6. Claims 6-12, 25-27, and 35, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Max H. Noori whose telephone number is (571) 272-2185. The examiner can normally be reached on Tuesday-Friday from 8:00 AM to 6:00 P.M.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2800. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The central fax number is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Max Noori/

Primary Examiner, Art Unit 2855

Tuesday, November 04, 2008